

# AMERICAN BEE JOURNAL

47th Year

CHICAGO, ILL., FEB. 7, 1907

No. 6



Herbert Freas, of St. Anns, Ont., in a  
Buckwheat Field.



Mr. and Mrs. Wm. C. Gathright, Starting on a  
Camping Trip.

(See page 106)



Apiary of H. E. Gray, in Saratoga Co., N. Y.

TWENTY-PAGE NUMBER

# American Bee Journal



PUBLISHED WEEKLY BY  
**GEORGE W. YORK & COMPANY**  
 334 Dearborn Street, Chicago, Ill.

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This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

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## American Bee Journal

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As most of our readers know, we have gotten out a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

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I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

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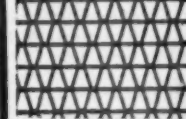
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Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, \$2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, \$2.50, any size wanted.

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## Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

**GEORGE W. YORK & CO.**

334 Dearborn Street, CHICAGO, ILL.

# American Bee Journal

## Trade Notes. The A. I. Root Co., Medina, Ohio.

### Photographic Competition

We are pleased to announce another series of prizes for the best photographs submitted to us, as described below, in two series, American and Foreign, under the following conditions:

**FIRST.**—The competition opens January 15th, and closes October 1st, 1907. All photographs intended for this competition must be in our hands by the last-named date.

**SECOND.**—Competition for these prizes is limited to bee-keepers or some member of the family. Entries may be made for as many different classes as may be desired.

**THIRD.**—A photograph entered in one class can not be entered in any other class.

**FOURTH.**—Each photograph should be marked on the back with the name and full address of the sender, and the class in which it is entered. This is important.

**FIFTH.**—In judging the photographs, the general appearance, neatness, etc., of the apiary, or exhibit, or yard, will be taken into consideration. Photos may be sent unmounted. We rather prefer them this way, and in a solo or reddish-brown if possible. However, send such as you can get most easily.

**SIXTH.**—With each of the photographs submitted we would like a brief statement of the conditions under which the apiary was photographed or honey produced, or similar information regarding the photograph. This should be limited to about one hundred words.

**SEVENTH.**—All photographs and correspondence regarding the same should be addressed to Advertising Department, GLEANINGS IN BEE CULTURE, Medina, Ohio.

**EIGHTH.**—We reserve the right to limit the number of awards or withhold any award if no photo worthy is entered in the class.

### AMERICAN COMPETITION

(Including Canada and Mexico)

AND

### FOREIGN COMPETITION

The following are the classes in which entries may be made:

**CLASS A.**—Photographs of any apiary in village, town, or city.

**CLASS B.**—View of an apiary not exceeding six hives in town or city.

**CLASS C.**—Apiary in town or country of not less than six hives or more than fifty hives.

**CLASS D.**—Apiary in town or country of fifty hives or more.

**CLASS E.**—Photograph of comb honey produced by a single colony of bees; not less than ten sections, and this preferably in plain sections.

**CLASS F.**—Photograph of a bee-keeper's home, showing some view of the apiary if possible. The apiary need not be prominent in the picture, however.

**CLASS G.**—Photographs of a crop of honey from any number of colonies, six or more.

**CLASS H.**—Photographs of any apiarian exhibit of bees, supplies, or honey taken at fairs or shows of any kind.

**CLASS I.**—Photographs of any work in the bee-yard, such as hiving swarms, extracting, or any other operations with the hive.

**CLASS J.**—Photographs of any other subject relating to bee-keeping not classified above.

### PRIZES

	Value, Postpaid
<b>FIRST.</b> —One leather-bound "A B C of Bee Culture," 1907 English edition, or cloth-bound French or German.....	\$2.00
<b>SECOND.</b> —One-half leather "A B C of Bee Culture," 1907 English edition....	1.75
<b>THIRD.</b> —One "How to Keep Bees" and any two Swarthmore books.....	1.50
<b>FOURTH.</b> —One full cloth-bound "A B C of Bee Culture," 1907 English edition....	1.20
<b>FIFTH.</b> —One "How to Keep Bees," by Anna Botsford Comstock.....	1.10
<b>SIXTH.</b> —No. 1 bee-veil, all silk.....	.80
<b>SEVENTH.</b> —No. 2 bee-veil, silk face....	.50
<b>EIGHTH.</b> —One illustrated book, "Bee Culture in Foreign Countries".....	.50
<b>NINTH.</b> —One Bee Model, Queen.....	.50
<b>TENTH.</b> —One Bee Model, Drone.....	.50

Ten prizes are offered for each class: Ten for Class A, Class B, Class C, Class D, etc.—one hundred prizes for American contest, and one hundred prizes for the Foreign contest; two hundred in all if that number of entries are received, the prizes offered being identical for each class for the American competition and for the Foreign.

If the winner of any certain prize already has the prize offered, we will, on request from him, furnish a selection of other items from our catalogs, of equal value.

### Danzenbaker Prizes

It is to be regretted that so many bee-keepers are satisfied to produce year after year a very ordinary grade of honey as regards its appearance, when by a little more care, and having more suitable fixtures, and by taking the honey from the hive at just the right time, a much larger percentage of "fancy," or "extra fancy" honey could be produced, which would sell at a much higher price. The experience of honey-merchants generally is that there is no difficulty in disposing of large stocks of fancy or extra fancy, even when the market is dull. It is the inferior grades that suffer most at these times. We believe, too, that bee-keepers would be very much better satisfied with their season's work if their best efforts were made to produce a really fine product. To increase further the interest in extra fancy honey, the following prizes are offered for honey produced in Danzenbaker hives during the year 1907, under the following conditions:

**FIRST.**—As above stated, the honey must be produced in a Danzenbaker hive, either the present style or any Danzenbaker hive that has been put out within the last few years. These hives may be had of any dealer in beekeepers' supplies in any part of the country.

**SECOND.**—For Classes 1 and 2 we require a shipment of approximately the amount stated, to be made by the bee-keeper direct to us at Medina. After the prizes have been awarded the honey entered for competition in Class 1 or 2 will be held subject to the instructions of the producer. We will sell it at 5 percent commission, or we will ship it to

any point direct by freight or express. There being good honey markets in our immediate vicinity, such as Columbus, Cincinnati, Cleveland, Buffalo, and Pittsburg, it can be disposed of without difficulty at good market prices, and the shipper will not have to lose a good market by shipping it here. Neither the honey awarded a prize nor that which obtained no prize is to be our property, but will be sold subject to the instructions of the producer who sends it to us. We are interested only in inspecting it to award the prizes.

**THIRD.**—For all honey submitted for prizes we must have a definite statement from the producer regarding the conditions under which it was produced, whether a light or heavy flow of honey, how the colony was handled, how many colonies in the yard, from what source produced, etc.

**FOURTH.**—For Classes 3, 4, and 5, we must, in addition to the above report, have the signature of two witnesses, certifying to the correctness of the report. If the party who sends us the report for the competition is well known to us we shall not require these witnesses. References may be given instead of the signature of witnesses if desired. All parties intending to compete for these prizes should send for blanks which we will furnish, on which the report may be made out.

**FIFTH.**—It will be noticed in the last three classes, three to five inclusive, that it is not at all necessary to send us the honey—all we require is a report.

**SIXTH.**—We reserve the right to limit the number of awards in each class, or to make no awards in a class if there are no satisfactory entries for the same.

**SEVENTH.**—No contestant will be awarded more than one prize in each class, but may make two entries if desired—one in Class 1 or 2, and another in Class 3, 4, or 5.

The classifications for the prizes are as follows:

**CLASS 1.**—For best shipment of 200 lbs. of comb honey in Danzenbaker sections.

**CLASS 2.**—For best case of comb honey in Danzenbaker sections.

**CLASS 3.**—For best report of yield from single colony in Danzenbaker hive.

**CLASS 4.**—For best report of yield from five colonies in Danzenbaker hives.

**CLASS 5.**—For best report of general results from use of Danzenbaker hive.

For each class there will be ten prizes as follows:

**FIRST.**—\$10.00.

**SECOND.**—\$7.00.

**THIRD.**—\$5.00.

**FOURTH.**—\$2.00.

**FIFTH TO TENTH.**—\$1.00 each.

This is the time to decide to enter this competition. No matter where you live, whether in the United States or elsewhere, you can certainly find one class in which you can make an entry; and as there are ten prizes in each class, we believe that no one will be greatly disappointed in the results unless it is ourselves, and we hope that we shall not be, but see a large number of entries. Even if you fail to get a prize, you will doubtless have increased the value of your own product by your efforts to produce some big results or an extra quality of honey.

THE A. I. ROOT CO., Medina, Ohio





(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at \$1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor

CHICAGO, ILL., FEBRUARY 6, 1907

Vol. XLVII—No. 7



### Value of Honey as Food

Mr. Harry Lathrop, one of Wisconsin's leading bee-keepers, sends in the following on the use of honey as food:

Happy the man who can eat all the honey he desires—and has the honey to eat!

I have met not a few, who say they can not eat honey, having had an overdose when they were young. I usually find, on further inquiry, that it was on the occasion of the cutting of a bee-tree that they gorged themselves on the sweet, were made sick, and ever after nature rebelled against that which had caused pain and trouble.

It is easy to see how one could overdo in this way, at a time when one has tramped through the forest until tired and hungry, then endured the excitement of felling the tree and having suddenly a lot of honey exposed in the most tempting manner, with combs broken and dripping, and having the delicious flavor of wild honey. The men and boys at such times are apt to forget that honey is a concentrated food, of high nutritive value, and should be eaten with lighter and more bulky foods, unless only a little is taken. If they would take the precaution to carry along a jug of sweet milk, and some nice light bread, they could enjoy a feast there beside the fallen bee-tree that would be fit for a king, and there would be no bad after effects, no disgusted stomach to protest in after years.

But if those who have been indiscreet will teach their stomachs that there is really no harm in a little honey eaten properly, I believe they would soon be able to use honey again with safety and satisfaction.

I find that honey is a good winter food here in Wisconsin. I use it daily, and am almost entirely free from colds and sore throat, of which there seems to be a plenty among the people around me.

If only all the people would leave off the use of tobacco, and other like things, and use the money, so wasted, in the purchase of honey, and nice butter and milk, how much better health they would have; and the bee-keepers would have a much better market for their honey.

HARRY LATHROP.

The foregoing is a good sample of the kind of reading matter that should appear in the

newspapers throughout the country, to help create a more general demand for honey. Mr. Lathrop speaks from experience concerning the value of honey. Such testimony is valuable. No doubt many other bee-keepers could duplicate what he says. Why not all who can, just write something like the above for the local newspaper? Almost any of the editors of such papers would be glad to publish it. It is a work that is helpful in two ways—it benefits the public to know the true value of honey as food, and it should help the producers of honey to secure an increased demand, which doubtless would result in better prices being realized for table honey, at least.

### Black Bees vs. Italians

On page 909 (1906), some comments were made upon a controversy between two British subjects—one in Australia and one in Scotland. Referring to this, the "party of the second part" writes as follows:

"IN ALL THINGS CHARITY."

Yes, Mr. York, your motto, text, a precept—whichever way we regard it—is an admirable one. But the pity of it is that we rarely call it up to memory except when counselling the "other fellow." It is perhaps a vice of the age that too many of us—

"Compound for sins are inclined to  
By damning those we have no mind to."

Now, I have no objection to anything you wrote on pages 909 and 910 (1906), and I will not even cavil at the word "savagely," but charitably presume it is merely a misprint for "severely." Hurriedly written, they are similar! Our Antipodean brother is evidently prepared to write me down an ignoramus, at which I am not greatly concerned; but you kindly stop short of this, for which thanks. Believing with the poet that "there is no darkness like ignorance," I will most readily eat humble pie if I am wrong, and even gratefully thank the benefactor who enlightens

me. Your article all over is very fair-minded, and you in particular grasp two essential facts, viz.: that there are blacks and blacks, just as there are Italians and Italians, and that even the blackest blacks are not so black as they are painted. To confirm you in the first belief, I can assure you that, not only in the British Isles, but over a large area of Continental Europe, they are the predominant race, and *the bees to pay*. To convince you on the second head, let me take you on a trip, in spirit, to far away Australia.

In the corresponding issue of the Australian Bee-keeper there appeared a glowing account of the excellent returns obtained from about 40 colonies of blacks, and the writer had no word of his hives being wiped out wholesale or otherwise.

Again, in the current number of the same bee-paper, you can have further proof, at first hand, in favor of my side of the question. At the conference of the Victorian Apirists, the president stated that "he did not agree with the statement that black bees have a weaker constitution than Italians." Mr. D. Morgan, a gentleman who should know, considered that "it was proved, that when an Italian colony gets these diseases it is *worse* with them than with blacks." Mr. Anderson, who read an informative paper, stated decidedly that, as the fruits of a good deal of experience, he could affirm that "he introduced foul brood when he introduced Italians and goldens." Mr. Beuhne, a leading apirist, insisted on the fact that "too much was claimed for Italians that is not characteristic of the race." Finally, one gentleman even suggested that it might be advisable "to introduce blacks to improve the strain."

It is facts we want, strike as they may. If I am an ignoramus, I err in good company. Quoting from the same book as you did, I would say, "In the multitude of counsellors there is wisdom"—and truth.

That blacks are not an effete race even in Australia, is proved in the last Bulletin, and that, too, by a breeder of Italians who has 40 years' experience behind him. On page 143, Mr. N. Abram writes: "When the bees of an apiary prosper so as to be rather above the average under the prevailing conditions, then, no matter what kind of bees they are, blacks or Italians, there is no need to interfere."

Again, even Mr. Tipper himself goes far to confirm my contention, for on another page of the very same paper, where he falls foul of my condemnation of the unfair treatment accorded to blacks, he tells so woeiful a tale of the deplorable condition in which he found his own apiaries, and the heavy losses (50 to 75 percent, I think), that one would conclude that his colonies were all headed by the despised and reviled black queens, unless that we are expressly informed that they were Italians, carefully bred from the best blood in the world, and the result of 25 years' careful selection. No wonder Mr. Morgan, at the

# American Bee Journal

convention, was moved to ask, "Is it possible to import black bees to improve the strain?"

Now, most questions have two sides, and what I would object to is the fact—for it is a fact—that your American bee-keepers write as if blacks were a useless and effete race. The "charity" you desiderate should in the future make you more cosmopolitan. Chicago and a hundred miles around is not the world, and the same, of course, holds true of Banff. Is it not *you*, in light of the facts I have placed before you, that do not take sufficiently into consideration "locality?" I have consistently upheld the good points I have found in blacks, but I have at the same time shown charity to Carniolans and Italians, and am ready to champion their many good points. I am heartily with you in all that has recently appeared editorially in the American Bee Journal on "improvement of stock." If apiarists would devote more time and thought to developing the good that is in all the 3 races, the apicultural world would be nearer the bee-paradise we sometimes hear about.

Banff, Scotland. D. M. MACDONALD.

That is a good defense of the black bee, Mr. Macdonald—a strong defense—and all the stronger because you are careful to keep truth on your side. Advocates of Italians would say it is one-sided, and it is entirely right that it should be so, because you are not trying to advocate Italians. So it is only fair to present some points that advocates of Italians would be likely to make.

Preliminary to that, a word as to the one point of controversy between us. It is not necessary to suppose that "savagely" was a misprint for "severely." The dictionary gives one definition of "savagely:" "[Colloq.] very severely; as, *savagely* criticised." It may be said that this is an American colloquialism; at any rate, it is a common use of the word here; and in this sense you will no doubt think it correctly used.

Admitting that Messrs. Morgan and others held the opinions quoted, is it not true that the majority of Australian bee-keepers hold the opinion that blacks succumb more readily than Italians, especially to foul brood?

Suppose Mr. Anderson introduced foul brood with Italians; what does that prove? Has any one ever claimed that Italians are immune to foul brood? Suppose Smith had the best bees in the world, and Brown the poorest; that foul brood attacked Smith's bees, and through them the disease was conveyed to Brown's bees; would that prove in the least the superiority of Brown's bees?

Suppose that Editor Tipper lost 50 to 75 percent of choice Italians; is there any proof that if they had been blacks the loss would not have been 100 percent?

It is true that "Chicago and a hundred miles around is not the world," but Chicago and 3000 miles around is all of the world, practically, for American bee-papers; and within that radius it is the right thing for them to say that the blacks are inferior. Perhaps you may not know that on this side opinion is not divided as it is on your side. In England blacks probably take the lead, and at the same time there are leading bee-keepers there who prefer Italians. It is not so in this country. Practically, no one prefers blacks. If, then, an American editor be asked by a beginner as to which is the better bee, he answers, "The Italian," without stopping to add, "but in Switzerland the black is better." What is Switzerland to the American begin-

ner? Likewise the editor of the very excellent bee-paper published in Switzerland would be likely to reply that blacks are the better bees, without adding that the reverse is the case in America.

So you see that so long as there are no "two sides" to the question on this side, American bee-papers are hardly to be blamed for giving only the one side. All this is said, as may be gathered from what was said on pages 909 and 910 (1906), with full recognition of the difference between such matters in this country and yours. If climatic differences have not too strong a bearing in the case, the possibility may even be admitted that the best blacks in England are better than the best Italians in America—at least, such a possibility may be admitted until trial is made. Are you sure you can furnish us the Simpnure blacks without the least taint of Italian blood?

## Packages for Extracted Honey

Discussing this subject in the Canadian Bee Journal, and largely from the standpoint of personal experience, J. L. Byer says:

While the experience of extensive retailers seems to prove conclusively that for the town trade it pays to put up honey in glass, yet to the writer's mind it seems doubtful whether

this is true as regards the country and village trade. For example, in a village near us of 1200 population, last year, over 2000 pounds of honey was sold in packages of 10 and 5 pound pails. To my knowledge, not a single pound was sold in glass, and I can hardly think that so much honey would have been sold provided the honey had all been put up in 1-pound packages.

On the other hand, it might be argued that some who would pay 15 cents for a single pound would never think of investing 50 cents at one time for a 5-pound pail. In fact, Mr. Hand said he knew of one family who annually bought over 150 pound-bottles, who would never think of buying a 5-pound pail at one time.

Personally, I feel inclined to think if there were no pound packages in sight that more than likely the same family would buy 5-pound pails, and incidentally come to the conclusion that it was much the cheaper way of buying honey.

From the producer's standpoint there is not half so much work in selling in pails as there is in putting up in glass; and in the case of the pails being used, the consumers become educated to the use of honey in the granulated form, and it is surprising how many become partial to honey in that condition.

All things considered, while I would not discourage any way of increasing the sale of honey, yet in my trade, after taking into consideration the demand in my own locality, I feel a bit slow about investing in glass so long as I can sell in tin packages as readily as in the past.



The National Association had 2201 members on Jan. 30, 1907. Why not make it 2500 by April 1—that would be only 150 a month for this month and next? If more convenient, you can send your dues to the office of the American Bee Journal, and we will forward them to Treasurer France.

The Apiary of H. E. Gray, appearing in the picture on the first page, was thus described by Mr. Gray when sending us the photograph from which to make the engraving:

The photograph herewith shows a portion of apiary on Moreau Farm, in Saratoga Co., N. Y., consisting of about 125 colonies, principally Carniolan stock with a few Italian colonies. I run for comb honey mostly, using 1½-pound sections, and a double brood-chamber interchanging with the super, the former taking 8 frames and the latter 24 sections.

My spring count, in 1906, was 76 colonies, which produced not far from 1½ tons of surplus honey, comb and extracted, which I have no trouble to market at near-by towns. This locality produces a fine quality of basswood and clover, with some buckwheat, etc.

I winter my bees on the summer stands in pairs, by closing together, then putting a winter-case around and filling in with dry material, such as leaves, chaff, etc.

Last season was my first experience in bee-keeping, while engaged in the jewelry business. On April 1, I disposed of my business to take up bees with thoroughbred poultry as

a means of livelihood. I have a great deal yet to learn, and look to the American Bee Journal for a good share of it.

H. E. GRAY.

Mr. Freas in a Buckwheat Field.—When sending the picture shown on the first page, Mr. Freas wrote thus:

I send a picture of myself standing in a buckwheat patch on a hillside on the farm on which my great grandfather settled some time in 1700. My grandfather, my father, and myself, were born on this farm, and have lived here all the time. Father is living, aged 71 years.

The hat I am wearing does not go out of style in this locality.

No liquor nor tobacco has been used in our family for three generations.

HERBERT FREAS.

P. S.—I forgot to add "B. A." to my name. That means "Bachelor Apiarist." I have been a bee-keeper for over 15 years, and have 24 colonies now. The quality of the honey last year was very poor, and not much of it.

H. F.

Mr. and Mrs. Gathright, of California, as they appear when starting for a camping trip, is shown on the first page. The following is what Mr. G. says about it:

I enclose a photograph of two bee-keepers and their outfit starting on a camping trip. The bee-keepers are my wife and myself. We have packed in the wagon our bed, one trunk hay and grain for the mules, fishing poles



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guns, etc. The wagon is large enough so we close up the front and back, and sleep inside.

We started the afternoon of Nov. 7, and camped that night in the pretty little city of Santa Paula. This is a very nice place, having some of the finest residences and an air of prosperity and progressiveness. The people had recently voted out the saloons by a large majority, which of itself shows progress.

From Santa Paula to San Buenaventura we passed through the great Lima bean country of California. The acreage planted to Lima beans is said to be about 65,000 acres. Some of the bee-keepers move their bees to these bean-fields after they have gathered the crop of sage honey, and secure two crops a year, sometimes. The honey from Lima beans is almost water-white, and very fine. All through this section of country we see nice farm houses and large barns, and the people appear to be very prosperous. My wife, being a native of Ohio, was astonished at seeing such an abundance of flowers everywhere at this time of the year, this being her first winter in California. In many places we saw geraniums bordering the farms along the roadsides, and in other places neglected and growing wild in the greatest profusion.

At San Buenaventura the places of interest are: The old mission, with its old wooden bell, made hundreds of years ago; the flower gardens of the late Mrs. Theodosia B. Shepherd; the Bard Memorial Hospital, and the beautiful grounds around the court-house.

Leaving Ventura our route lay for 30 miles along the beach. This is a most beautiful drive. The Anacapa Islands can be plainly seen all the way. As we drive along we are impressed with the grandeur of the old ocean, as the breakers roar and send their foam right into the road on which we are traveling.

We pass through the Carpinteria Valley, one of great richness. Here we saw the largest grapevine in the world, and we saw the largest eucalyptus trees we had ever seen. One measured 15 feet in circumference 8 feet above the ground. These trees are natives of Australia, and are planted for shade and wind-breaks around orange orchards. They grow very tall, and do not send out long side-branches as do most other trees. They blossom in December and January, and the bees fill up the hives nicely when there is a sufficient number of trees, but the honey is dark and not salable, but it comes in a good time for bees to breed up on it.

We spent a week in Santa Barbara. Here we met our old bee-keeper friend, Delos Wood, who joined us for a few days' fishing off the wharf. We caught an abundance of small fish, which were very fine eating.

We visited the old Santa Barbara Mission, founded in 1786, and said to be the largest, most important, and best preserved, of all the 21 missions erected in California during the early days of the Spanish rule.

The Potter Hotel is a place of great interest to visitors on account of its extensive grounds, with its wealth of rare flowers from all parts of the world. A more beautiful place I have never seen, and doubt if it can be surpassed in the whole world. "Adios," Santa Barbara! We hope to see you again.

WM. C. GATHRIGHT.

**Notice to Illinois Bee-Keepers.**—We have received the following from the Secretary of the Illinois State Bee-Keepers' Association, which should be of interest to every bee-keeper in Illinois:

The annual membership fee in the Illinois State Bee-Keepers' Association is \$1.00, and by arrangement the National Association allows the members of other associations to come in a body through the secretaries at 50 cents per member. Having received letters from many who were already members of the National, we have resolved to accept such in the Illinois State Association (who already have membership in the National) at 50 cents. This will entitle them to a cloth-bound copy of the 6th Annual Report, which will soon be ready for the press. Those who come in be-

fore March 1, will be in time to get their names in the Report, in the longest list the State Association has ever had. And further, we have about 100 beautiful badges that will be given out to the members joining before they are all gone.

Rt. 4, Springfield, Ill.

JAS. A. STONE, Sec.

### Bee-Song Souvenir Postal Cards.

We have issued in colors, 3 bee-song postal cards for bee-keepers, each card having one of the following songs, about  $2\frac{1}{4} \times 3\frac{3}{4}$  in size, also with illustrated heading on each card: "Buckwheat Cakes and Honey," "The Bee-Keeper's Lullaby," and the "The Humming of the Bees." The first two cards have small pictures of the authors of the words and

music. This makes 4 souvenir postal cards we have now issued for the use of bee-keepers, the first being the "Honey-Bear" card. Prices, by mail, are as follows: Sample cards, 3 cents each; 7 for 20 cents, or 10 for 25 cents.

**Putnam & Peake** is the name of a new firm which began to operate a bee-hive factory at River Falls, Wis., about Feb. 1. This is the same factory that Mr. W. H. Putnam conducted for a number of years. Mr. Carl H. Peake, the junior member of the firm, was an employee of the A. I. Root Co. for 9 years, and has the reputation of being a skilled workman. We bespeak a successful career for the new concern.



## Insect Respiration and Circulation

BY PROF. A. J. COOK.

A subscriber asks me to describe the breathing and circulation in insects.

By respiration is meant the taking in of oxygen, and the passing off of carbon dioxide. Oxygen is the most important food in this respect, so we must have a constant supply of it, and if it is withheld but for a very few minutes, death by suffocation is sure. Carbon dioxide is harmless in the blood if in normal proportions, but let it once become present in excess, and it comes to be a virulent poison. We see, then, how important respiration is with all animals.

### RESPIRATION OF PLANTS.

This function, indeed, is not limited to animals, but all plants must breathe in the oxygen and exhale the carbon dioxide. This is certainly true of all but the very lowest of the plants. The higher plants also take in carbon dioxide to use in their plant work and nutrition, and at the same time they give off oxygen, but they do this only in the daytime, when the sunlight aids them in their functional activities. But they breathe in the true sense, by day and by night. We see, then, that plants tend only to vitiate the air at night, though in the day they may make it more wholesome for us to breathe.

### TWO KINDS OF BREATHING.

It is well known, that some animals breathe water, or, better, air from the water, and such animals are called "water-breathers." Others breathe only air, or the oxygen from the air, and would surely die if placed in water. The water-breathers have gills, and the others lungs or tracheae. The first, by the gills or branchiae, can draw the oxygen from the water, while the latter by

their lungs can take the same from the air. Both will soon die if the respiration cease.

### RESPIRATION IN INSECTS.

Insects are all air-breathers when in the mature state. Some, like the dragon-flies, breathe water, by gills, while yet larvæ. Bees always breathe air. Insects never have true lungs, but have tracheae instead. These penetrate to every part of the body. The red coloring-matter of the blood is to carry the oxygen from the lungs to the body. We see, then, why insects have white or yellowish-white blood; they have the air in their tubular lungs all over the body, so they do not need to carry it.

### RESPIRATORY SYSTEM IN INSECTS.

In our bees, as in almost all insects, two main air-tubes run along the sides of the body, and these branch and re-branch, and so push into every part of the bee, or other insect. These get the air through breathing-mouths, called "spiracles." These are situated along the sides of the body, and are very conspicuous in the great caterpillar, that works on the tomato, known as the "tomato-worm." Thus the insect takes its air, not through the mouth, but through these spiracles along on the sides of the body. These are guarded by a double valve which is under the control of the insect. The hairs, like the hairs in our own noses, are always keeping dust out, while the other valves act only when the need of protection is extreme—just as we use our thumb and finger, when the dust or noxious gas is too pronounced, or disturbing.

### BLOOD AND CIRCULATION IN INSECTS.

The blood in insects, as in us, is the great nourishing liquid. As I have already said, it is without the red coloring-matter, and so has not the red corpuscles, which hold the hemoglobine, or red coloring-matter. Except in this lack

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of the red corpuscles, the blood of bees is essentially like our own.

### THE HEART OF INSECTS.

The heart of all insects, and so of the bee, is a straight tube, which is dorsal; that is, it extends along the back. This heart is all the circulating apparatus that the bee has. It has neither arteries nor veins. The heart has valves along the sides, which open as the heart is relaxed, and close as it contracts. The heart only moves the blood one way—towards the head. It then pushes back, through the intervascular spaces, and again crowds into the heart, to be emptied again near the head. We see, then, that the heart serves only to keep the blood in motion, forcing it ever towards the head. The circulating apparatus is very simple, while the breathing system is very well developed. We should expect this, as the muscular development and function is very high in insects, and good breathing and great activity go together.

### WINTERING BEES IN CALIFORNIA.

The bee-keeper in California has great advantage over his brother in the North and East. There the winter comes with such rigor, that often the bees are swept as with the very besom of destruction. How often the entire apiary has been swept off by the Storm King, from the unwary bee-keeper, who was not careful to protect his bees from its fury. Here in our "Sunny South" land we have no such menace, and do not dread the winter's cold in the least. Here there is never a winter that the bees do not fly at some time each month of the winter. Often the bees fly, gather, and breed up quite strong in the very heart of the winter. As we all know, there can be no danger of death from cold, and unusually poor food would not be harmful in such cases as this.

Yet there is one menace even in California. I refer to starvation. This should never occur, and will never occur, if the bee-keeper is aware of the danger, and gives heed to his business. There is a reason why this occurs far too often. The California bee-keeper, from his distance from the large markets, is very likely to work for extracted honey. This is less likely to be injured in the long transit to market, and is sent often at less expense. If the season is good, the honey comes in rapidly, and the over-ambitious bee-keeper is very likely to extract too closely, and so the bees are robbed of the needed stores for winter. It behooves every bee-keeper to look well to his bees, and be sure that all have enough honey to carry them through the winter. It is a sad truth that many colonies of bees die here almost every winter from this inexcusable neglect.

### ABUNDANT RAINS.

The crying need in California—especially Southern California—is generous rains. We must have them to insure a full honey crop. We have been very fortunate in this respect this winter. We have not only had more than is usual, but we have them in a way to do the most good. The prospects now for next

season are very excellent. With good rains we are almost sure to have a good honey-year. Last year, however, even with rains, we had a dearth of honey. The cold, damp season was the cause. Such seasons are very exceptional.

Claremont, Cal., Dec. 29, 1906.

## Do Bees Freeze to Death?

BY G. M. DOOLITTLE.

A correspondent writes that one of his neighbors tells him that bees often freeze to death in extremely cold spells during winter, and wishes me to tell in the American Bee Journal whether his neighbor is right or not.

Many seem to think that bees often freeze to death in winter, and when colonies are found dead in the spring, after an unusually cold winter, they are quite sure that no other cause besides freezing will account for their being dead, as they have often seen bees on the outside of the cluster somewhat stiffened with the cold when the mercury registered little more than the freezing point. And some are so unreasonable that they will not listen to anything which goes to prove that they may be mistaken. But to the careful student of intricate problems, facts often appear which show that each, in a measure, may be right and wrong, where two take exactly opposite sides in these matters.

That bees will freeze to death, when isolated from the main cluster, no one can deny, for no observing bee-keeper has failed to see single bees, and little clusters of 2, 3, 5, 10, 20, or even 50 to 100 in a place, away from the main cluster, frozen till life had become extinct, long, long ago.

There has been considerable talk of late about freezing bees and queens during the summer, by putting them in a refrigerator or an ice-house, so that in this frozen condition they would not consume anything, nor grow old by wearing themselves out through useless activity, thus prolonging their life indefinitely, and allowing the keeping of extra queens on hand, while the nuclei were worked for more queens, the frozen ones being thawed out at any time when they were wished for use, or successfully introduced while they were partially inactive through not being fully recovered from their stupor, which was brought on from freezing. But I can only look upon that word *freezing*, as used here, during such talk, as a fallacy, for, if I am right, no bee, after being once frozen, ever comes to life again. What was being talked about was bees brought into a dormant condition through a certain degree of cold, which degree was kept up till they were brought out from under that condition into a condition of activity again through a lesser degree of cold. But that degree of cold must always be less than the freezing point, for, with all my efforts to bring a frozen bee back to life again, I have signally failed.

I have picked up thousands of bees which had dropped down and become chilled on the snow, with the mercury standing at from 32 to 40 degrees, and brought them to life again, but with

repeated trials on similar numbers of bees after the mercury had sunken as low as 30 degrees, or lower, not a single one could be gotten to move so much as a single foot or wing. And I have taken these little clusters of bees out on the combs, away from the main cluster, and brought them to life again the same as were those which had not been frozen on the snow, where frost had never reached them, but after they had been once frozen it was always useless to try to bring them back to life again. So much for little clusters and single bees that have become isolated from the main cluster during cold or very cool weather, which all go to prove that my correspondent's neighbor was right, that bees do freeze to death.

But there is another side to this matter, and this other side shows that his neighbor was wrong, if he intended to convey the idea that a good colony of bees with plenty of stores within easy reach could be frozen to death. While it is possible to freeze nearly all animal life by exposure to a very low temperature, the bees seem capable, with plenty of stores near at hand, to stand any amount of cold, so long as food remains within easy reach. To be sure, the bees on the outside of the cluster may become somewhat stiffened with the cold, but those within are as brisk and as lively as in summer. That pioneer bee-keeper, Moses Quinby, than whom there is no better authority, knew this to be a fact when he said that "the bees inside of the cluster, on a zero morning could fly as readily as in July, should the cluster be suddenly thrown apart."

Again, that veteran apiarist, Elisha Gallup, who died only a short time ago, in writing of a winter in upper Canada, where he kept bees a half century ago, said, "The thermometer for 60 days in succession was not above 10 degrees below zero, and for 8 of these days the mercury was frozen, yet my bees, in box-hives, with a 2-inch pole at the top, and the bottom plastered up tight, came through in excellent condition." (See American Bee Journal, Vol. V., page 33.)

Now if colonies of bees will not freeze to death under such conditions as these, pray tell me when they would do so. While bees here in central New York were never put to so severe a test as the above, yet the mercury often drops from 20 to 30 degrees below zero; still it does not seem to affect good colonies of bees in the least. From experiments conducted with a self-registering thermometer, I find that when it is 20 degrees below zero in the outside air, a temperature of 46 above zero is maintained within the hive and close to the outside of the cluster of bees, while the center of the cluster gave a warmth of 63 degrees above zero at the same time, thus showing that the bees were far from freezing.

To test more thoroughly this matter of freezing colonies of bees, I took a colony one evening when the mercury stood from 10 to 15 below zero, and suspended the hive about 2 feet from the bottom-board, taking off all covering from the top of the hive, so they were practically the same as hung in



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the open air, for the colony was not large enough so the bees touched the side of the hive in any place. They were left thus all night, during which the mercury went as low as 16 degrees below zero, yet the next morning the bees were all right, even if I did expect to find them dead. And what was more, they survived all of my experiments with them, coming through all right in the spring, and doing good work the next summer.

After all of the above, I came to the conclusion that all talk about freezing a good colony of bees when in a normal condition is a myth, and an impossibility.

Borodino, N. Y.

### Bee-Culture vs. Horticulture

*A paper read before a joint meeting of the Kansas State Bee-Keepers' Association and the State Horticultural Association*

BY C. P. DADANT.

These two branches of agricultural economy are allied to each other, and may be carried on by the same producer, thus forming a profitable combination.

There are, however, some persons who think that these two industries are antagonistic. A demonstration of the incorrectness of these views will make the subject of this address.

There are two points upon which wrongly-informed horticulturists think that bee-culture is objectionable. The first is the bees' influence upon the blossoms; the other, their depredations upon fruits.

The bees are said to work injury upon the blossoms of fruit-trees and shrubs or plants, by removing the honey and the pollen. A very elementary study of the structure of blossoms will enlighten us upon these points.

#### BEES HELP FRUIT-BLOOM FERTILIZATION.

In most of our fruits, the sexual parts of the bloom are both to be found within the corolla, the male part being the stamens or pollen-producing organs, the female part being the pistil or fruit-bearing stem. It is only by the scattering of the pollen in minute quantity, upon the pistil, that the blossom becomes fertile. Pollen is a dust of different shades, according to the blossoms from which it is produced, which has the power of making the fruit productive, or to cause it to "set," as is popularly said. This pollen, under the powerful microscope of scientists, proves to be composed of very minute round balls, having much the shape and appearance of osage oranges. These little pellets are gathered by the bees to be used in the larval food of the immature bee. So it is not consumed by the adult insect in any perceptible quantity. It is carried to the hive upon the third pair of legs in a cavity which nature seems to have provided for this sole purpose. Bees may be noticed laden with it, at any time during the spring or summer when returning to the hives, and many uninformed persons have taken it to be wax-pellets. But beeswax is produced in the hive, from honey, by digestion.

In gathering these pollen-grains, the

bees shake them from the stamens which have produced them and cause a number of them to fall upon the pistil. So eager are they in the gathering of this pollen-dust that they are often covered with it, from head to foot, as if they had rolled in it. They commonly use the first and second pair of legs to brush it off their bodies and pack it into the pollen-baskets on the tibia of the third pair of legs. Not only does the action of the bees scatter this fecundating dust upon the female part of the flower itself, but it also distributes it from one blossom to another, from one tree or plant to another. In this way, in-and-in breeding is avoided. Although in-and-in breeding is very good to intensify certain qualities of plants, it is well known that this, when carried to excess, finally results in sterility, both in plant and animal life.

The action of bees and other insects in bringing about a cross-fertilization is well evidenced in the sporting of peaches, which cannot usually be reproduced exactly from the planting of the stone. A still better evidence of the sporting caused by insects is found in melons, cucumbers and pumpkins, which when planted in sufficient proximity to each other will produce offspring which is not cucumber, melon or pumpkin, but a mixture of them.

It has been ascertained that in numerous fruit-blossoms this pollen transportation and scattering on the part of the insects, and of the bees in particular, is indispensable to the proper fertilization of the bloom. Observing horticulturists have noticed that their orchards are never so full of fruit as when they have had two or three days of warm weather for the blossoms to be visited by honey-gathering insects. In the case of some blossoms, such as the strawberry—of which some varieties are imperfect and carry only pistils and no stamens—it is indispensable that some insect be able to carry the pollen from the perfect blossoms to the imperfect ones. Strawberry growers well know that some varieties must be accompanied by other varieties in order to become productive, but even if they were planted together, there would be but very remote chances of cross-fertilization if it were not for the agency of the winged insect.

So much for the removal of pollen by the bee. But what of their absorption of the honey? Some say that the honey exuded by the blossoms is re-absorbed by these same blossoms, in the support of the young fruit, and that the removal of this honey works injury to the fruit. Whether the honey is absorbed or not, we have a very good evidence that its removal works no injury. The largest crops of honey in our section of country are gathered from white clover and Spanish needles. In Colorado, and in the West generally, millions of pounds are gathered from the alfalfa. I have yet to learn of a single instance where those plants have failed to produce a bountiful crop of seed after having given a crop of honey. On the contrary, it is proven that they produce more seeds after the bees have had access to them. Mr. Samuel J. Hunter, a State Entomologist, has made

experiments and ascertained that the seed-production is increased three-fifths, at least, by the work of the honey-bee on alfalfa blossoms.

Whether we believe in a fixed purpose of progress in Nature, or in the invariable outcome from the survival of the fittest, or in both of these theories combined, we must acknowledge that existence of honey-gathering insects shows a beautiful adaptation to the conditions of plant-life.

#### BEES AND FRUIT.

Let us now look upon the other objection to the culture of bees, in connection with horticulture—their depredations upon fruits. I think that, if it can be shown that the bees prey only upon damaged fruits, and this only in exceptional circumstances, the verdict will be in their favor, for damaged fruit, when hanging upon the tree or the vines, is of but little value. If not harvested at once it will rot, and the bees gather only that which would be wasted.

But do the bees damage sound fruit? Or, better yet, can they damage sound fruit? An examination of their mandibles in comparison with those of many hornets and wasps reveals the fact that while the mandibles of the latter are like saws, those of the bee are rounding and deprived of teeth. Their jaws act sidewise, instead of up and down as in animals, and they are shaped like spoons. They can grasp and hold another bee or the stems of plants; they are made to manipulate soft substances like beeswax. They can cut a hole in a piece of cloth or in paper, but an examination of the manner in which they do it will show that they first take hold of some projecting thread and pull it out, then take another, and keep pulling till they have changed the apparently smooth piece of cloth into a rag. But when it comes to the smooth skin of a fruit, all they do is to remove the soft down or bloom of the fruit, if they travel upon it long enough; but they are no more able to bite into it than a human being could bite into a smooth plaster wall.

This may be demonstrated by actual test. The most expeditious method is to place a bunch of ripe grapes inside of a populous hive of bees, previously puncturing a few of the berries and taking note of the number. After 24 hours or more, investigation will show that the bees have sucked the juice out of the punctured grapes, but have left the others intact. They will go even as far as covering with propolis or bee-glue those grapes which they cannot use, as they cover any foreign substance of which they cannot get rid.

Some persons assert that they are sure the bees injure fruit because they have seen them at work upon it, and because large quantities of fruit, especially grapes, have been found entirely destroyed, where bees only were found upon them. This is simply a delusion similar to that of the uninformed human being who denies that the earth revolves around the sun, because he sees the sun rise and set, and because he cannot feel the earth move; and argues also that if the earth moved it would be impossible

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for him to live on it when it was bot-tomside up. The bees evidently work upon damaged fruit, and they feel so innocent about it that they do not even attempt to fly away when we catch them in the act. But let us get up with the dawn, before sunrise, and go to the vineyard or the peach orchard, and there we will catch the real culprits that feed upon the fruit—quails, robins, cat-birds, etc. They gather in a vineyard by the hundred, eat their fill, and when no longer hungry they find pleasure in wantonly plunging their beaks in the soft juice. In many instances you will find a bunch of grapes with hardly a sound berry, and they are all plucked on the same side, many of the berries showing two holes, one above the other, a short distance apart. It was done by the two points of the bird's beak.

But the sun rises above the horizon and the bees come to gather the frag-ments, and so does man, and he straight-way puts the blame on the industrious little toiler which works from sunrise till sunset for its board, and never fails to bring its harvest to the hive, to be later robbed by this complaining human miser.

Bees do not work on unsound fruit at all times. Is it because they are lazy at times? No, it is because they some-times find better food. Whenever you see the bees on damaged peaches or grapes, you may be sure that there is no honey to be found in the blossoms. There are seasons of honey scarcity, when they manage to gather quite a little partly-fermented fruit-juice. It is the best they can find, but is not good for them. It will sour in the hive and make bad winter food. The prudent apiarist removes all this unhealthy food from the hive before winter, and gives them good honey instead. There is never any great quantity of it harvested, because many bees are made drunk by its fermentation, and fail to reach the hive alive. So when bees are seen in numbers on damaged fruit, it may safely be asserted that the apiary is more injured than benefited thereby.

### UNTIMELY SPRAYING INJURES BEES.

Lét us look upon the damage which has been occasionally inflicted upon the bee by the horticulturist. It is done by injudicious spraying of fruit during the bloom. Dealers in spraying instruments have asserted that it is necessary to spray the fruit-trees during the bloom. The result has been, in some instances, wholesale poisoning of insects where this method was pursued, the poison in the spray mixing with the honey in the corolla and endangering, not only the life of the bee that sipped part of this liquid, but also the life of those who might eat of this poisoned nectar in the combs.

So the spraying of fruit during the bloom might easily be made a criminal matter. But there is no advantage in spraying fruit during the bloom. What we seek is to prevent the puncture of the fruit by the depredatory insects, such as the codling moth, the curculio, etc. These insects puncture the fruit when it is formed, and their destruc-tion must follow the formation of the fruit. The throwing of any poisonous

mixture upon the blossom can have but one effect—that of destroying the ef-ficiency of the pollen, if it is diluted in this poison.

The assertions I have made in this paper are based upon positive facts gathered in a large orchard and exten-sive vineyards, connected with an apiary of about 100 colonies of bees. I have often taken visitors into the vineyard and the apiary during the maturing of the fruit, and shown them, without any possibility of error, that bee-keeping and fruit-growing are not antagonistic, but are profitable and helpful to one an-other, when carried on together in a suitable location.

Hamilton, Ill.

[Since the foregoing was written and read, Mr. Dadant adds the following in reply to Mr. Hasty:—EDITOR.]

### BEES AND GRAPES.

I am sorry to feel that I must take issue with Mr. Hasty concerning bees vs. grapes. But it has been my misfor-tune to be mixed up with a great deal of trouble in this line, and I have made so thorough an investigation of the work of bees on grapes that I know—absolutely know—that what I advance is true. I have heard people make the same statement that is quoted by Mr. Hasty, about Mr. Pocklington, (page 33) and in every case I proved it to be only an opinion advanced, which the party did not dare back up.

I have starved bees on grapes. I have tried just what Mr. Hasty suggests,

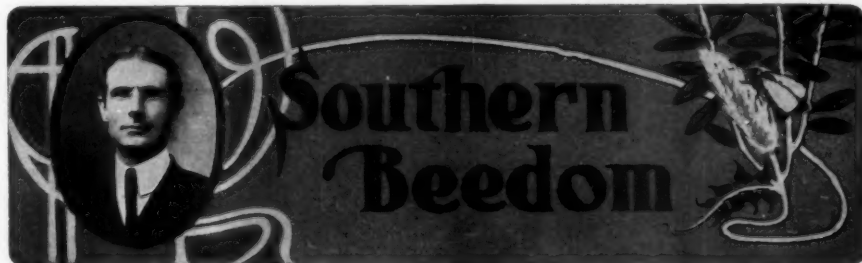
getting the bees to "cluster on the bunch till they cover it all up, out of sight, like they were balling up a queen or try-ing to force a hole into a hive." I have had bees in this way just as long as they had the patience or persistence to stay, and I will tell you that they stayed a long time, for they knew the juice was there, just under the skin. But it was out of their reach. One berry punc-tured, out of a bunch treated in this way, had a depression in it where the juice had been sucked after 3 hours of exposure, but not a sound berry was damaged, except for the loss of its bloom.

Any of my readers can try this, and also try putting sound grapes into a full colony of bees and note the result. To make the test more secure, puncture one or two berries when putting them in. But be sure and do not handle the bunch carelessly, for you may loosen the berries slightly at the stem, and in that case the bees would soon take ad-vantage of it.

I am sure of what I say when I as-ert that bees *will starve* on sound grapes, for I have tried it, not in one instance only, but in a number of in-stances, and with the greatest care in making the tests. Too many people make assertions in this matter without any actual test, and only from a super-ficial investigation, or, as in the case of some grape-growers, because they are anxious to find the bees at fault.

Test this for yourselves, and do not depend upon any eyes but your own. It is not difficult to do.

C. P. DADANT.



Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

### Number of Colonies to Produce \$500.

The following question has been asked me to be answered in "Southern Bee-dom:—

"How many colonies will it take to produce an income of \$500 a year? And what price per colony will they cost?"

The product per colony in my own apiaries has ranged from 50 to 150 pounds for a number of years. A fair average for southwest Texas, and for an average number of years, would perhaps be 75 pounds. For a period of 9 years, of which I kept close account, the total average of my apiaries was 66 2-3 pounds.

As bulk comb honey is produced most extensively, with some extracted honey, a good average price per pound would be about 8 cents. A hundred colonies,

therefore, should, with reasonable care, bring an income of \$500 or more a year.

Full colonies in frame hives range all the way from \$3 to \$6 per colony, depending a great deal upon their con-dition and the race of bees. Box-hives, where such have not already seen their day, and can still be obtained, will cost from 75 cents to \$2 each. It is some-times good policy to buy such, if they can be obtained cheap enough, and trans-fer the bees into frame hives that have been obtained "in the flat," and nailed up by the bee-keeper himself. This is, I believe, the best and the cheapest way to begin bee-keeping, unless a whole apiary, or a large number of colonies in the hives wanted, are bought at once. A start may also be made by buying nuclei and then building them up to full colo-nies. This is a cheap way of starting apiaries, but it is rather slow for an income the first season, unless a person has something else to depend upon for



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a living. Prices of such nuclei can be obtained from shippers of bees advertised in the bee-papers.

Rains have been quite general over the South, from reports received so far. A good season in the ground means much for the bee-keeper. More rains are needed, however.

### May in Texas in January

It is warm—yes, *hot*—weather here the middle of January, the thermometer registering 75 to 80 degrees through the day, and only once or twice it went below 60 degrees at night for the past month. Agerites (wild currant), black chaparral, and various other early-blooming shrubs are now blossoming, and the bees are working and roaring at night as if it were May here in Texas. This we would very much rather not see, as the bees are rearing brood as if it really were spring. And this, too, more than a month earlier than I ever saw it before. This will cause a large consumption of stores that the bees will be sure to need later, as February is almost always our coldest month here.

#### INTERCHANGEABLE BEE-SUPPLIES.

A marked copy of Dr. G. Bohrer's good article on "Home Hive-Making and at Factories," on page 28, should be sent to every bee-supply manufacturer in the United States.

I have reference to the last two sentences of that article. Now I believe that our bee-supply manufacturers want to have their goods so that they will at least be interchangeable with supplies from other factories, but they are not always that way, by any means.

#### ALL THE BEGINNER NEEDS.

One trouble with the average novice, he thinks he has to buy almost all he sees advertised in the bee-supply catalogs when he starts with bees. So he counts and figures on this and that article until he runs the bill up to hundreds of dollars for making a start with only a few colonies of bees. Then he becomes disgusted and quits right off.

Now let me tell you what I would buy if I had only a few bees and wanted to make a start: Outside of the hives and frames actually *needed* for the bees the present year, I would get a smoker, a bee-veil, an extractor, and an uncapping knife—that's all. I would add a good text-book if I didn't already have one.

#### A CURE FOR BEE-PARALYSIS.

Mr. F. J. R. Davenport, of this State, gives this as a cure for bee-paralysis:

"Take equal parts of honey and granulated sugar. Melt a pint together for each colony that is affected. At sundown remove the top and pull the cloth off and pour this warm liquid over the brood-frames and contract the entrance. The next morning, if it is warm, they will come out and take a cleansing flight, and come back to their hives all right."

I copy the above from the Dallas News. We hardly know from the above which Mr. Davenport considers the cure for the disease, the mixture of sugar and honey, or the cleansing flight. If

the latter, I suppose either alone would answer, as a feed of any kind will cause bees to take a flight. If the mixing of the two sweets performs the cure, I am compelled to say that I hardly see the philosophy in it.

#### THANKS FOR AN ARTICLE.

Mr. Adrian Getaz has my thanks for kindly answering some of my questions asked on page 704, the past season, and, as usual, I think his answers are about as nearly correct as we will likely get. (See pages 1032-1033, 1906, for his replies.) I am glad I fired those questions at Mr. Getaz for we have at least another one of his many good articles that we might otherwise not have had. Rescue, Tex. L. B. SMITH.

Yes, indeed, the weather has been *hot*, and everything has seemed like spring for the last 2 months. Indications are that we will have colder weather soon, and I am fearing a late, cold spring.

Such are disastrous to the bee-keepers. When the stores are nearly consumed and the bees need the flowers to replenish them from, there may be none, and the weather may be such that the bees are kept in the hive. It is then that the bee-keeper must look at and watch the bees, and provide for them. Extra protection to the outside of the hives will also be essential at such times. However, we shall hope for the best.

I should be glad to have some good short articles on "Home Hive-Making," from those with experience. I am sure *locality* plays a big part in this matter. If I had white pine lumber, or anything like it, I'd make all my supplies with a foot-power buzz-saw, but our yellow pine lumber is hard to work, and then it warps, checks and twists very badly.

If I were a beginner, I would not forget to subscribe for a good bee-paper or two. These would be *almost as necessary as any of the other things*.



### Report of the Michigan State Convention

REPORTED BY R. F. HOLTERMANN

(Continued from page 92)

Mr. Geo. H. Kirkpatrick read the following paper on:

#### WHY BEE-KEEPERS SHOULD PEDdle THEIR HONEY

First, they should do so in order to get the largest amount of cash possible for their product. If a product is sold direct to the consumer, there will be no heavy freight bills to pay, and no middle man to share in the profits at the expense of the producer.

A few cents on the dollar may make a difference between success and failure. An individual may operate a given number of colonies and secure a fair crop of honey. Should he sell his honey to the city merchant at a market price of 7 cents, he would receive for 10,000 pounds, \$700. Had this individual sold his 10,000 pounds direct to the consumer in the country where he lives, at 10 cents per pound, it would have brought him \$1000.—\$300.00 more than he got for it in the city.

We will now see how many days one must labor to prepare and peddle 10,000 pounds of honey, and what he will receive per day for his labor. It will require 20 days to liquefy 10,000 pounds, put it into pails, and label it. I think it is fair to put the number of sales per day at twenty 10-pound pails at \$1.00 each, or 200 pounds per day. Thus it will require 50 days to peddle 10,000

pounds, or 70 days to prepare and peddle it.

Now, if he will divide the \$300.00 by 70 (the \$300.00 being the difference between retail and wholesale prices) we have \$4.28 per day for labor while peddling 10,000 pounds of honey. The 10-pound friction-top pails will not cost more than the 60-pound cans, for the storage of 10,000 pounds. If we sell at wholesale, the cans go with the honey. If we peddle, we can reserve the pails and gather them up on our next trip.

#### STYLE OF HONEY-PACKAGE.

I use a 10-pound friction-top pail, one size only. I have never found it practical to carry any pail with a capacity of less than 10 pounds.

Every pail of honey should be neatly labeled, the label giving the number of pounds the pail contains, the source from which the honey was gathered, the body, color and flavor. We should also give notice on this same label how to liquefy honey when granulated.

One pleasant feature of peddling honey is that one becomes more widely known, and makes friends and acquaintances.

#### SPECIAL VEHICLE FOR PEDDLING.

I consider it an advantage to use a special vehicle, neatly painted, and lettered, giving in full in large, plain letters, one's occupation, name and address.

#### ADVANCE NOTICE WHEN SELLING.

As men do not generally leave money with their wives when its need is not foreseen, I give notice to the heads of families on a Rural Route, a few days

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previous to my canvass, by mailing a special card that I have gotten out. By so doing it largely increases my sales, as the people are expecting me.

Only the best quality of honey should be sold for table use. If we deliver a pail of honey a little different in color or flavor from a previous sale, call the customer's attention to it when the sale is made.

When canvassing a new route, one should not be too hasty. Take time to get acquainted with customers, and tell them something about your occupation. Be polite, addressing all ladies and gentlemen in a becoming manner. Make friends, if possible, with all the persons you meet. Sell to them a good quality of honey—yea, a better quality than they can get elsewhere, deal fairly and squarely, and success is yours.

Success in life comes from finding out what the world wants and then supplying it in a style and quality a little better than others have done, or are doing. The world will pay for our honey a good, fair price, if we only do our work well enough. GEO. H. KIRKPATRICK.

In the discussion which followed, Mr. Muth advised asking a good price if the goods were first-class, and instanced a case where a man was making \$4.00 a day (short hours) selling extracted honey, of best quality, at 20 cents per pound.

Mr. Kirkpatrick stated that he sold to lumber camps and the agricultural class entirely.

Mr. Holtermann thought Mr. Kirkpatrick's plan excellent; he himself sold at wholesale entirely, but the more retailed by bee-keepers at home, the better, provided a proper margin was left the dealer. As a rule, bee-keepers did not leave margin enough for the retailer. The wholesale and retail prices were too close together, and the storekeeper would push other goods which gave him a better margin of profit. In the address given, a difference between 7 and 10 cents was stated, probably about right. In the cost, expenses on the road and postage in notifying customers would have to be reckoned with.

(Continued next week.)

I had charge of a yard consisting of about 80 colonies in good condition. My prospects looked good, for my brother promised me that if I hived 50 new swarms during the season he would see that my financial difficulties for the next year in the Normal school would be at an end. Each new swarm was worth \$5.00 to him, and he was anxious for me to save them all.

The long rows of white hives stood in one corner of a large apple orchard. The wide branching trees were now loaded with little green apples, but earlier in the spring they had been covered with beautiful white and pink blossoms, and had furnished the bees with a bounteous supply of nectar to nourish their young. Just as the blossoms on the trees had changed to apples, so the tiny white eggs in their little waxen cells had changed to bees, and now the busy little workers were getting ready for their life-work of gathering honey.

As the young bees began to multiply in the hive, the old queen must gather her workers together and seek a new home. It was my duty to give her an informal introduction to the new hive.

I had often seen my brother hive bees, and had studied about the honey-bee in Biology, so I thought I knew all about it and its habits. I soon found out that I had much to learn.

The first few days I had nothing to do but become acquainted with my charges. It was interesting to watch the little workers as they came in from the fields loaded with pollen. Now and then a big drone would come out and buzz around, trying to make me believe he was very dangerous, but I knew he could do nothing but scold, and I soon got used to that.

On the third day, as I sat reading under the shade of an apple-tree, I heard a strange buzzing sound, and upon looking up saw a swarm of bees issuing from a hive not 6 feet from where I was sitting. I hurriedly put on a bee-veil and gloves, lighted the burlap in the smoker, and ran to the back of the hive to watch them come out. They tumbled over each other in their eagerness to get out, and it seemed as though every bee in the hive were going to leave it. The bees circled in the air for a few minutes, and I anxiously waited to see where they would cluster. What was my surprise and delight when I saw them fly straight to the hive I had chosen for them, and enter their new home without any assistance from me. How proud I was of my first swarm, and what a splendid bee-keeper I thought I was getting to be. I changed my mind, however, during the next few weeks, for every swarm seemed to have a new idea about the location of its new home. Some would settle on a bunch of alfalfa, and I would smoke them into the hive. Others would start out and lose their queen in their flight, and return to their old home. When I saw them returning I would turn the old hive around, put a new one in its place, and play a little trick on them in this way. I would give them a frame of brood from one of the first swarms, and let them rear a new queen.

Several swarms were "foolish" enough to cluster on a fence-post, and



Conducted by EMMA M. WILSON, Marengo, Ill.

### Eating Honey on Meats

Honey poured upon cooked bacon, sausage and some other meats is really very palatable, and much relished by many persons, strange as the combination may sound.—American Bee-Keeper.

Which recalls that some years ago a certain small boy in this locality made a regular practise of eating honey on his potato.

### Nothing Like Honey-Vinegar

The thousands of sisters who take the Delineator will be rejoiced to see an item in the February number, page 332. It appears to be an unsolicited testimonial to the value of an article which is probably not so well known as it should be even among bee-keepers. Here is the item:

#### THE USE OF HONEY-VINEGAR.

If you want some fine vinegar, pure in quality, and very tasty, make it yourself from honey. I sampled some honey-vinegar at a friend's house some time ago, and I was so delighted with it that I persuaded her to give me her recipe for making it. Here it is:

Add 1½ pounds of extracted honey to a gallon of water. Then keep in a warm place, and in a few months you will be able to enjoy your vinegar. If it is not strong enough, add more honey, for I have made some vinegar with 3 pounds of the honey to the gallon of water. While not suited for all culinary

purposes, in the making of salads and for ordinary table uses, there is nothing that can be compared to honey-vinegar.

New Auburn, Wis.

Mrs. T. C. C.

### My First 6 Weeks Among the Bees in Colorado

A stranger, in the month of June, passing through the beautiful valley which lies between Denver and Boulder, can not help noticing the large alfalfa fields purple with blossoms, the roadsides and ditch-banks bordered with the fragrant sweet clover, and the prairies covered with the many-colored wild-flowers. Yet does he ever associate with these pleasant scenes the fact that these blossoms are the source of the many thousand pounds of pure white honey that are shipped from Denver every year?

If he is a close observer he will see that almost every ranch in the valley has its row of bee-hives located in some secluded spot, and that many of these ranches have large apiaries where the busy little workers, during the month of bloom, are industriously storing the nectar which they find in great abundance in these beautifully colored blossoms.

My brother has 5 or 6 apiaries located in different parts of the valley. It is about my experience in one of these apiaries during the swarming season that I am to tell you.



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I would scrape them down on the hive with a honey-board. But most of them seemed to have a fad for seeking the highest branches of the apple-trees. I would mount a tall ladder, carefully draw a large gunny-sack over the cluster of bees, then break the branch off and carry them down to their new home in a sack. This was very nervous work, but I soon learned that the bees would not sting me if I was careful with them. If I were nervous and afraid they seemed to know it, and were much harder to manage.

One day 2 large swarms came out at the same time and clustered together on the topmost branch of a big tree. I could not reach them even with the ladder and gunny-sack, so I shook the branch vigorously, and bees and apples went tumbling down. I then began to work my smoker as hard as I could. Now bees do not like smoke. These, however, did not seem to mind it, and were bound to cluster on that branch. The more I shook and smoked the more determined they seemed to be. This rough treatment, however, made them angry, and a number of them began to sing a war-dance around my head. One angry little bee spied a hole in my veil, and in she flew and stung me on the eye. Then it was my time to become angry. It did not take me long to get down from the tree-top. They had won the battle. I decided to let them hold the fort until I could get some reinforcements.

When the men came in to dinner I got one of them to saw the top off the tree for me, and bring down fort and all. My eye was swollen shut by this time, and that side of my face was very plump and rosy for a few days.

I put the bees all into one hive and watched for a balled queen. I soon found the ball. I had never had this experience before, and oh! how I dreaded to put my hand down among those bees and lift out that ball of bees! But I did it. My hand shook, but they did not seem to notice it. I found the queen, caged her, and waited results. All was quiet in the new home, or seemed to be until about the middle of the afternoon. Then the storm began. I saw them rush out of the hive-door like mad. I thought my swarm was going to the tree-top again. I ran to the hive and placed the caged queen on the door-step. She must have called them home again, for they returned and lived peacefully ever afterwards.

During the whole season I received only 3 bad stings. The swarming season is very short, lasting only about 5 or 6 weeks. During the last week the bees had almost all stopped swarming, and were working in the supers. Some of the stronger colonies had the second super half full of honey.

My brother told me that Saturday would be my last day in the yard. I had already hived 49 swarms, and felt sure of another one before Saturday. Thursday and Friday passed and no swarm appeared. I watched anxiously all Saturday morning, but in vain. In the afternoon the sky began to cloud over, and I gave up all hopes of getting my 50th swarm. I gathered my things together, ready to start home, but before I went I thought I would go

down through the orchard and see if I could find some ripe apples. When I returned I noticed a commotion in the further end of the bee-yard. I went over to see what was the matter. The rain was now falling and the air was thick with bees returning from the field, but there on one of the lowest branches, in easy reach of a hive, was a little afterswarm. All I had to do was to get the hive and shake it in, and my 50th swarm was safe!

A LITTLE BEE-SISTER.



Conducted by J. L. BYER, Markham, Ont.

### North and South in Hand-Grasp

It is with pleasure I grasp the extended palm of Mr. Scholl (page 70). It is a case of "looking up" and "stooping to *concur*;" factors, evidently, by looks of splendid photograph on that first page, that did not have to be taken into account when Mr. and Mrs. Scholl were considering matrimonial relations.

### Comparison of Southern and Canadian Weather Condition

So they are having summer weather down in Texas, with the thermometer registering as high as 80 degrees Fahr. As I read this I am wondering if those "roses, violets, and carnations" have not been nipped since Mr. Scholl penned those lines, as this past week has been our first taste of real, severe weather, the temperature going as low as 15 degrees below zero.

After reading aloud to Mrs. Byer the nice things Mr. Scholl has to say about Texas weather, I asked her, "Now, wouldn't you like to live in Texas?" and the answer comes decidedly, "Well, no; I guess not." Whereupon she gives as reasons a number of objections to the South in general, among which I might mention earthquakes, cyclones, extreme heat, and drouths; snakes, fleas, and other insects too numerous to catalog.

Come to think of it, I guess no country has a monopoly of all the good, or bad things, for that matter. While our winters are cold, we prepare for them, for we know they are *sure* to come; and from an apicultural standpoint, we don't seem to have any more trouble to get our bees ready for the honey-flow than do our friends in the South. Winter effectually stops the ravages of the moth, and combs that are stored away in moth-proof boxes in November, are secure for all time to come; and I am told, and can readily believe, that con-

Many thanks for the interesting story of your experience, with the hope that this shall not be the last we shall hear from you.

May it not be that those studies will be just a little more interesting because you earned the money for them yourself? It's much to have so good a brother; and one feels like holding one's breath for fear you might not get that last swarm.

sumption of stores is much greater in the South than in the northern sections.

However, I am free to confess that "bees flying and 80 degrees Fahr.," sounds pretty alluring just now; and from the fact that a former schoolmate of mine is now domiciled in Beeville, Tex., I have no doubt that if *I had to*, I could manage to live there also.

### Honey from Cappings With a Solar Wax-Extractor

In a letter from Mr. George Wood, of Wesley, Ont., speaking about getting honey out of cappings, etc., among other things he says:

"I have used a solar extractor for that purpose, but it takes a lot of time, and in this breezy upland country it does not always work out clean."

Mr. Wood's experience is in common with a great many other apiarists; and especially in wet, cool seasons like the past few years, the solar extractor is not much to be depended upon without the use of artificial heat. As far as I am concerned myself, since using the press (of which more later), I have no use for my solar extractor, as I find it much better, in every way, to allow the cappings to drain off all the honey that is possible, then wash them to secure what honey is left for honey-vinegar. It is then only the matter of an hour or so to melt up all the cappings and run them through the press.

### Cold Winter and Little Snow

Up to date (Jan. 23) we have had a moderately cold winter with scarcely any snow. Although a few days in January were quite mild, yet none were warm enough for the bees to have a flight. Our bees seem to be affected slightly with dysentery, judging by signs at the entrances of some hives, and a few colonies seem to be some

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what uneasy, flying out in unseasonable weather. Whether this uneasiness is caused by the bees' food being almost exclusively buckwheat, is hard to say, but there is no question that a nice, warm day (which we are not likely to have for some time) would be welcomed by bee-keepers in this locality.

A nice blanket of snow to cover the clover would also be a benefit, for, although the clover is in no immediate danger, if we happen to get severely cold weather, frost penetrates very deeply into the ground, and this condition greatly tends to produce "heaving" of the alsike in the early spring. We had no snow last winter, and if the result of last season's honey crop is a safe criterion, certainly prospects are none too assuring for next season's returns.

### Bee-Inspectors for Ontario

As will be noticed in the report of the Ontario convention, next season will see a radical change in methods of foul-brood inspection for Ontario. Whether the proposed changes will work out well in practise remains to be seen.

Formerly, Mr. McEvoy was inspector, with Mr. Gemmill as assistant, who, however, was not often called upon. This year it is proposed to have 6 men in the field, each having a specified territory to work in. At present it is understood, I believe, that Mr. McEvoy is to have a "say" in the matter of selecting the other 5 men; also to have a certain amount of supervision over the work, and act as referee in case of any disputes. However, as far as I am aware, the Department has not as yet definitely decided upon the course of action to be taken.

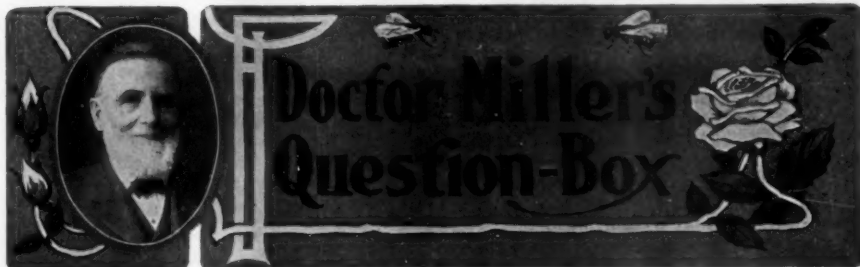
While at the convention the Minister of Agriculture expressed the view that there would be no difficulty in getting 6 capable men to take charge of the work; and right here I confess to being a bit skeptical about the matter. In the majority of cases the men most qualified for the work would not think of leaving their own business and taking up the work of inspection.

One of the arguments against having one man to do all the inspecting, was that such work should be done during fruit-bloom, or at other times when honey was coming in; and that it was physically impossible for one man to be at all places where his services were required, in these limited periods. As a matter of fact, the same arguments hold good if 6 men are employed, for very few bee-keepers would care to leave their yards during a honey-flow, unless they had competent help to leave in charge.

Of course, these views are merely speculation on my part, and possibly we may be surprised when we learn who are to take up the work. At any rate, this matter of inspection is a work that deserves the earnest, tactful attention of the Government, and it should be gratifying to the bee-keepers of Ontario to know that the Department is taking the interest it is in our business. Certainly, every bee-keeper in Ontario should be ready to lend a help-

ing hand in this matter of eradicating foul brood, whether we have but one

or a dozen inspectors to help us in the fight.



Send Questions either to the office of the American Bee Journal, or to  
Dr. C. C. MILLER, Marengo, Ill.  
Dr. Miller does not answer Questions by mail.

### How Many Colonies for the Pasture?

My bees have at least 300 acres of clover and alfalfa within 2 miles. How many colonies can I pasture to be safe? UTAH.

ANSWER.—That's one of the very hard things to say. You don't say whether you mean red or white clover. If you mean red, it probably doesn't count for much, while white clover counts heavily in good years, although some years it blooms a plenty and yet yields no nectar. If you had said 300 acres of white clover, meaning 300 acres solidly occupied with white clover, I should guess that 200 colonies might get good picking. Alfalfa varies more. If it is all used for raising seed, then it probably counts as much as white clover. If used for hay, it counts for less, and may count for nothing, depending upon the times when the hay is cut. If always cut just before it blooms, then it counts for nothing; if cut when in full bloom, it may count perhaps on being enough for 100 colonies. You will easily see that as you state it, the whole thing is a varying problem. It may be mostly white clover, or it may be mostly alfalfa, and the alfalfa may be treated so differently as to make a big difference in the amount of nectar got from it. My guesses may not be reliable, and if any one can give anything more reliable I will cheerfully yield the floor.

### Storing and Capping Glucose and Sugar Syrup

I heard a bee-keeper say a few days ago that bees would not carry in glucose, and that they could cap neither glucose nor sugar syrup. I have supposed all the time that they would cap any sweet they stored in the cells. I have had no occasion to test this. What is your experience? ILLINOIS.

ANSWER.—I can give no positive answer from personal experience, for, although, I've done a lot of fool things with bees I never fed glucose. I have, however, fed sugar syrup, and had it sealed. Others have said they could not get bees to take glucose, and I don't remember seeing a report of any one who had been successful in getting bees to store it. Even if they could be induced to store it, it does not necessarily follow that they would seal it, for they have been known to fill cells without sealing them for a long time, if, indeed, they ever did.

### Wood Splints for Staying Comb Foundation

What are your splints for staying foundation? How are they used? P. E. ISLAND.

ANSWER.—They are splints 1-16 of an inch square, of basswood or some other straight-grained wood, about  $\frac{1}{4}$  inch shorter than the distance from top to bottom bar. It would

be full better to have them touch both top and bottom bar, but it would be more difficult to put them in. They are put in something like 2 inches apart, the 2 outer ones within half an inch to an inch of the end-bars. The splints are put in a dish of hot wax and left there till all frothing and bubbling ceases, and then they are lifted, one by one, by a pair of pliers, laid upon the foundation, which must be properly supported upon a board, and an assistant presses each splint into the foundation by means of the edge of a little board kept constantly wet. If put in while too hot, there will not be a good coating of wax on the splints. The foundation enters the groove in the top bar and goes down through the bottom-bar, which is in 2 parts, the lower edge of the foundation being squeezed between the 2 parts. The advantage is that the comb is built down to the bottom-bar. If, however, such a frame of foundation be given at a time when they are gathering nothing, the bees will gnaw a passage over the bottom-bar.

### Colors for Painted Hives

Should I paint my hives all the same color? If so, what color would you advise? I see from reading the American Bee Journal that some bee-keepers advise painting hives different colors, as one color bothers the bees in locating their hive. INDIANA.

ANSWER.—There would be some advantage to the bees in the way of recognizing their hives if they were of different colors, but it is hardly necessary. Bees locate their hives by means of surrounding objects, and except on a bleak plain utterly without any surrounding objects there is very little difficulty where the hives are 5 feet or more apart from center to center. But you can just as well have double the number of hives on the same ground by having them in pairs. Set two hives close together on the same stand, then leave a space of 2 feet or more, then another pair, and so on. Ground may be still further economized by placing another row close to the first, letting the hives stand back to back.

There is probably no better color, all things considered, than white, using good white lead.

### Changing Supers Over to T-Supers—Overstocking

I. I am interested in the T-super. I think it is a good one to adopt. I wish to ask if I can make T-supers out of my 10-frame supers (dimensions 16x20 inches outside) to make it pay, and how to do this the best way. I am a novice, or was 3 years ago, and was somewhat puzzled in the American Bee Journal, as was Mr. M. F. Soule. I think if he can have Dr. Miller's "Forty Years Among the Bees," and read it, he will soon pick it up. At least, I did so, and I am no scholar at all, and am 45



years of age. I have had no schooling in this country.

2. Last year I had 23 colonies, spring count, and doubled them up to 19, and had 7 at home and 12 at Oak Park, 4 miles away from home. They produced 70 and 390 pounds of honey, respectively, so that proves to me there are too many bees in this part of the country. I had my queens clipped, and shook the swarms of one on combs or foundation, and put the brood over the still weaker colonies, and increased to 23. I will move out to Oglevie, 25 miles from here, in the spring, on a small farm, and milk some cows and keep bees.

MINNESOTA.

ANSWERS.—1. Your supers are 18x20 inches outside, and if made of  $\frac{3}{8}$  stuff they are 14 $\frac{1}{2}$ x-18 $\frac{1}{2}$  inside. If you intend to use the popular 4 $\frac{1}{4}$ x4 $\frac{1}{4}$  section, the width of your super will do, but the length, 18 $\frac{1}{2}$ , is  $\frac{1}{2}$  too much. It depends upon how they are made, whether it will be easy to cut off that  $\frac{1}{2}$  and nail them together again; but if it is not easy, all you need to do is to nail in one end a  $\frac{1}{2}$  board. Then if your super is any deeper than 4 $\frac{1}{4}$  or 4 $\frac{1}{2}$ , it must be cut down to that depth. Possibly your supers are extracting-supers, and of such depth that each one can be cut in two, making two supers. Then, for each super, you will need 2 strips of tin  $\frac{3}{8}$  inch wide, and 6 staples, or else 6 pieces of sheet-iron 1x1 $\frac{1}{2}$  inch. You will nail a strip of tin on the bottom at each end to support the sections at each end. On the lower edge of each side, just at the middle, will be a staple, and half way between this and each end another staple. Drive each staple into the lower edge of the side, and about  $\frac{1}{4}$  inch from the inside, and then bend it over, so that when the super stands flat upon a table the staple will be flat on the table. If you prefer to use sheet-iron pieces instead of staples, two wire-nails will hold them.

"That proves to me there are too many bees in this part of the country." Not necessarily. If you have been in the business only 3 years, it may be that those were 3 bad years, and that next year will be a good year. It may be, however, that the locality is overstocked, for all that.

### Bee-Bread or Pollen in Winter—Taking Bees Out in Spring

1. I have a colony of bees which I thought had plenty of honey. I put them into a cave, or outdoor cellar, on Nov. 8, 1906. I took them out Jan. 23, as it was a very warm day, and found a good many dead bees in the bottom of the hive. They have 9 frames full of comb, but the bottom half is empty nearly half way up the frames; but I don't find any bee-bread in any of the frames. Will they winter all right without bee-bread, or can I feed them anything as a substitute for it?

2. They flew out in large numbers until 5 p.m. They carried in water till 4:30. It seems as if the honey is partly candied in the upper part of the frames. It is warm and nice in the cave. Nothing freezes in it. When is the best time to take them out of the cave and put them on the summer stand?

3. We are up on the high table-land where it has been very dry for a number of years. Bees had done no good until the last 3 years. Last year they did fine. Some took off from some colonies 70 to 75 pounds of honey of fine quality. What is the best to feed the bees in case they haven't plenty of stores in the spring to feed the young bees? Do you think that extracted honey is better than granulated sugar? We have had a nice winter, not much snow, but the wind blows a good deal of the time since the sun crossed the line in September.

NEBRASKA.

ANSWERS.—1. Why will winter all right without any bee-bread, but they can not rear brood in the spring without it. It may be that they can get pollen as soon as they fly in spring, and you can easily tell if they do by seeing them carrying in loads of pollen. If so, you need not interfere. But if they get no pollen you can give them a substitute of almost any kind of meal you happen to have.

A very nice thing is ground corn and oats. Set a shallow box of it out in the sun, tipped to one side, and when the bees work it down level tip it the other way. They will use out the fine parts, and you can feed the coarser parts to your 4-footed stock. I wouldn't wonder, after all, if the bees have all the pollen they need in the new hive now. It may be in cells with honey over it and sealed, so that you would not see it.

2. The right time to take out depends upon the season. In this locality I generally take out my bees about the time red or soft maples are in bloom, and that may be from the middle of March to the middle of April. Perhaps you could go by the same sign, although you are in the northern tier of counties in Nebraska, and so you are farther north than I. So long as the bees are quiet in the cave there is no need to hurry them out, and you need not be alarmed at some of the bees dying, for a good many may die from old age.

3. Honey of best quality is probably the best thing for bees, especially when brood is to be reared; but if you haven't that, then syrup of best granulated sugar comes next.

### Proper Temperature of Bee-Cellars

On page 14, R. H. Smith says the best temperature for wintering bees is 45 to 48 degrees above zero. If I remember rightly, all our best authorities agree on 42 to 45 degrees for the most successful wintering in cellars. I have one Standard barometer and 3 Fahrenheit thermometers. One of the latter is filled with quick silver, or mercury, and the others with colored fluids. I have all these in my cellar, and the variation from the one that shows the highest to the one that shows the lowest, is 10 degrees. Upon which can I depend for the desired 42 to 45 degrees which is necessary for successful wintering of bees, as claimed by our best authorities?

WISCONSIN.

ANSWER.—So you're up against that mixed matter of temperature in cellar. If there is anything like a general agreement, it is that the right temperature is about 45 degrees. But, as you have found out, thermometers vary. You will also probably find that cellars vary, perhaps on account of difference in dryness, perhaps for some other reason, so that if the same thermometer is used in 2 cellars, it may need to be higher in one than the other. I don't know which of your thermometers is best; and it doesn't make very much difference, although on general principles it's better to have it correct. But here is what you're to do: Take whichever thermometer you think best, and keep close watch until you find at what degree your bees are quietest; then keep your cellar as near that temperature as you can, whether it be 42, 45, 48, or something else. The idea is to find at what temperature your bees are most quiet by your thermometer, in your cellar, no matter what authorities say.

### Space Below Brood-Frames—Wire-Screening Cellared Bees in the Hives

1. As I expect to make my bottom-boards, I would like to know how deep an entrance can be before the bees will build comb from the bottom-bars to the bottom-board. I have been using them  $\frac{3}{8}$ -inch deep, but I notice the bees alight outside and crawl in, the same as a  $\frac{3}{8}$ -inch entrance; but if 1 $\frac{1}{2}$  inch they don't alight on the bottom-board, but on the combs. It seems to me this must save quite a little of the bees' time. Would 2 inches be too deep?

2. What do you think of shutting bees in the cellar with wire-screen? I use a frame with wire-screen on both sides. I close up the entrance with 2 small nails and a strip of wood. I use another strip to hold all together instead of staples.

IOWA.

ANSWERS.—1. I don't know just how deep a space would do, but I'm sure 2 inches would

be too deep. I have had bees build comb in a 1 $\frac{1}{2}$  inch space, although from what you say your bees may not yet have built in such a space. I should feel safe with a  $\frac{3}{4}$ -inch space, and likely there would be little building with a space of 1 inch. My bottom-boards, however, are all 2 inches deep; then during the busy season I fill half or more of the space with a sort of rack, which prevents the bees building down, yet gives them the chance for much ventilation. In winter the bees have the whole of the 2-inch space, which is an important advantage.

2. I never tried it, but those who have tried it generally condemn the practise. I remember especially E. D. Godfrey, of Iowa, who, some years ago, suffered loss by it. The editor of Gleanings has been trying it lately, and reports that when the bees find themselves imprisoned, they make such a to-do as to stir up the whole colony. I have used wire-cloth at entrances in winter, but it was of coarse mesh, 3 meshes to the inch.



### Wintering Well—Cold Weather

Bees are wintering well. We had a mild winter, with but very little snow, till about Jan. 20. We now have about 6 inches of snow, and it is cold. On Jan. 24, the mercury was 26 degrees below zero. My last season's crop of honey was about 4500 pounds from 63 colonies.

C. F. BAKER.

Belmont, N. Y., Jan. 28.

### Fair Season in 1906

The past season was a fair one here. I secured about 1350 pounds of comb honey, which was my largest yield since keeping bees. I took the 1st premium on a case of alfalfa honey, 2d premium on display of comb honey, and 3d on a case of amber honey, at the Kansas State Fair at Hutchinson. I think that is not so bad for a bee-keeper of only a few years.

JNO. A. DUNN.

Abbyville, Kans., Jan. 23.

### Cold Snap—Material Commotion

We have had our cold snap. Yesterday morning it was 10 degrees below zero, and now it is 14 degrees above, with 2 inches of snow. Bees apparently are all right.

There seems to be a commotion in the material world—"earth shakes," floods, and Minnesota snows. The traditional spiritual calm seems on the "quake" also, in France. Well, bee-keepers are a staid lot, and we can rely on them for honey and perseverance.

Farwell, Mich., Jan. 24. T. F. BINGHAM.

### Indians and Wild Bees

I never kept bees, but no one has had more experience than I and not keep them. I have tried to outdo bees ever since I can remember. First, the bumble-bees—how to rob them and get the honey. I have put in days, while herding sheep in Kansas, killing bumble-bees and pulling them in two and dropping the big drop of honey into my mouth. But not without stings, so you don't have to tell me a bumble-bee can sting more than one time.

Last summer I happened to go into Indian Territory. Stopping over night with an Indian family, they made the remark that if they had some sulphur they would rob a beehive. It made me "come alive," and I asked how they did it.

To cut the tree, burn most of the honey and all the bees, was the plan described. So I made a smoker out of a baking-powder can, etc., and fixed a box for them. They all

# American Bee Journal

wanted to go, children and all, and even called 4 dogs along.

Well, I had lots of fun, but only one boy stayed to help carry the honey, axe, saw, wash-boiler, and a dozen other articles besides a box full of bees—60 pounds (estimated) of capped-over honey.

I cut a tree and let it fall on a pile of brush to save the jar, then I paid no more attention to the bees. As for stings, they positively cured me of rheumatism. I sawed close to the hole, then split out, kept sawing and splitting out to the comb, smoking the bees up the hollow. Then I removed the comb, putting the young bees and comb in the box, and saving the choice capped-over pieces (and I had seen pieces 3 feet long) to eat. The broken pieces I saved for the bees to commence on.

Just one week from the time I put these bees in this box they had filled it nearly full of new comb and laid eggs in nearly every cell. I put them in 4-frame hives, cutting out the comb and putting it in the frames.

When I went back, 3 weeks after, they had 3 more trees, and I found 4 trees while hunting squirrels. I put 4 of these queens in a box the size of a suit-case, with a frame of brood and all the bees I could get handy by brushing them off the other frames. I carried that box as a grip (I did not pay express) 3 days and nights before I got them out in larger space in hives.

I gave each frame a new hive and spread them by adding frames of foundation as they needed it. I cut the trees in July. There are 8 colonies of bees now doing fine.

When I returned to see the people they called me a "bee-man," and asked me to rob a hive. I took out a frame of nice capped-over honey. To see those Indians reach out for a chunk of that honey did me good.

Do you think I could learn to be anything of a bee-man? I sold those I carried so far in my hand, so I have no bees.

Wichita, Kan. L. BENSON.

[Yes, there are encouraging signs of a bee-keeper in you. Better get some bees and "do business" with them.—EDITOR.]

## "Erythema" from Bee-Stings

Dr. Miller, after giving his answer in Jan. 3d issue, says:

"If any one can help out, such help will be gratefully received."

"Wisconsin's" wife, without doubt, suffered from Erythema. It is a well-known fact among medical men that external irritants (like a bee-sting), as well as the internal administration of certain drugs, and sometimes certain articles of food, or fruits, will produce in a few susceptible people the condition described by "Wisconsin." I know one person who can not eat strawberries without bringing on the affliction, and yet is otherwise in good health.

In reply to the query as to whether it will occur again, I will say: Yes, it certainly will if the lady is stung again. The attack will last from a few minutes to a few hours, or perhaps 2 or 3 days.

Yes, there is a remedy, but as it varies with circumstances, I will not give it for publication. The trouble can be prevented by avoiding the exciting cause—the bee-sting, or whatever it may be.

No, it is not advisable for "Wisconsin's" wife to try again to work among bees. She should avoid them. F. D. CLUM, M. D.

Cheviot, N. Y., Jan. 12.

## Drones Flying Jan. 5

With the thermometer at 38 in the shade, I saw 4 drones in flight. My boy caught one with his hand in the air, and I picked another off the grass in front of the hive. Doubtless this is no new experience in the history of bee-keeping, but the following facts may be interesting:

I started my little apiary with one colony in May, 1906. In June I took brood-frames and started 2 other colonies by introducing

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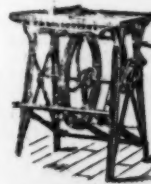
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queens. The season was a very poor one, but by liberal feeding they built up new comb, and on Sept. 10 (which was rather late in the season, I am afraid) I decided to experiment with the Ferris system on one of the new colonies, which was then full of bees. I divided it into 2 divisions by a board, and introduced an untested queen on the east side, the hives facing south. About 2 weeks later I examined this side and saw the queen, but could find no signs of eggs or larvae. I then fed each colony with all the bees could take of sugar syrup.

The middle of November I bunched the hives together, and placed a large packing box over all, cutting away on the side about 6 inches opposite the entrances. The hives are protected by at least 6 inches of closely packed leaves on all sides. The board cut from the front overhangs as a shade, so that I must get on my knees if I want to see the entrances.

New Year's day was warm, and I cleaned away a few dead bees that were lying just inside the entrances. I found a young unhatched bee at the entrance of the hive where the young queen had been given, and it suggested that possibly she had started to lay after my inspection.

On Jan. 5 this colony, which occupies the east end of the row, was the first to send out bees, and I suppose it was because the rising sun, striking the east end of the packing box, had warmed up the hive. This was 11 o'clock, and an hour later the colony at the west end sent out a few bees. The center colony made the smallest showing of all.

Bees were flying from both divisions of the east hive, but the great majority were from the one in which was the young queen. The drones came from this. The workers disported themselves in front like nurse-bees, and in about half an hour there were very few outside. The drones appeared almost at the start of the flight.

The following day (Jan. 6) the outside temperature rose to 50 degrees, and the colonies showed activity in much the same way as they did before. However, I saw no drones.

In "A B C of Bee Culture," Mr. Doolittle says he has twice seen drones flying in winter during his career, both occasions following very heavy honey-flows, and he assumes they had not been killed off. I watched the slaughter of the drones in my own hive, and I saw none flying for weeks before the beginning of winter.

For a definite conclusion as to the reason of their existence, I feel I must wait until spring, but, in the meantime, I conceive the following possibilities: First, the drones have lived since summer; second, the queen is now laying, but has not been mated, but the flying bees that I examined are small and downy, and I think they are young; third, the queen is laying, but her first eggs were not fertilized. To quote Robert Burns—

"Her pretence haun she tried on man,  
And then she made the lasses, oh."

Perhaps there may be a fourth, and even other possibilities, but I will let men like Dr. Miller add to their number.

F. DUNDAS TODD.  
Glencoe, Ill.

## Pollen and Honey in January

Bees are getting pollen and honey from black brush, wild peach, mistletoe, and barberry; also from seedling peaches and early-blooming pears. How is that for January?

Sabinal, Tex.

GRANT ANDERSON.

[We should think that January is pretty early for bees to be working on the blossoms. At this time we have nothing but snow and ice in this part of the country. But 1300 miles south of Chicago it would be quite different.—EDITOR.]

**For Missouri Bee-Keepers.**—Since I sent the call to the bee-keepers of Missouri, in the last issue of the American Bee Journal, to write to their Representatives and Senators

in support of their Apiary Bill, which has been introduced in the Senate, the Bill has also been introduced in the House. The Senate Bill is No. 145, the House Bill is No. 503; both Bills read alike, but in writing to a Senator it will be well to name Senate Bill No. 145, and when writing to a Representative, name House Bill No. 503.

I wish to suggest that Missouri bee-keepers write a letter to their legislators, calling attention to the great need of the apiarists and horticulturists, to have the Apiary Bill passed, and then have this letter signed by all the bee-keepers, fruit-growers, and other prominent citizens who take an interest in the welfare of the vocations named. It will be much easier in this way to get signatures of many bee-keepers to these letters, than to induce them to write the letter themselves. Bee-keepers, do all you can. It is important that our legislators hear from home.

ROBT. A. HOLEKAMP.

Sec. Missouri State Bee-Keepers' Association.  
4263 Virginia Ave., St. Louis, Mo.

## CONVENTION NOTICE.

**Minnesota.**—The Southeastern Minnesota Bee-Keepers' Association will meet in the Court House at Winona, on Tuesday and Wednesday, Feb. 26 and 27, 1907. Everybody is invited.

E. C. CORNWELL, Sec.

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"Langstroth on the Honey-Bee"—the well-known bee-book revised by the Dadants—has just passed into another edition. There have been some 75 pages added to it, and the whole work brought down to date in every respect. It is certainly a fine book, and should be read by every bee-keeper. It is really a classic. To become acquainted with the great Langstroth through the reading of his book is no small thing. Other bee-books are good, but there is only one "Langstroth on the Honey-Bee." The latest revised edition will be sold at the same price as the one preceding, which is \$1.20, postpaid. We still have a few copies of the old edition on hand, which we will mail at 90 cents each, if preferred, so long as they last. We club the new edition of this book with the American Bee Journal for one year—both for \$2.00. So long as we have any copies left of the old edition, we will send it with the American Bee Journal one year—both for \$1.80.

In justice I should say that the American Bee Journal pleases every member of the family, and all appreciate the Editor's tireless and punctual labors.—THEODORE LOHF, of Colorado.

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150 Colonies in new 10-frame hives, 3 yards, 3 houses, and large tent at home. Complete extracting outfit. New wagon and good horse. Best equipment to be found. 11,000 pounds last year. Bargain to close partnership. **MURREY & BULL.** 127 So. Howes, or 511 Stover St., Ft. Collins, Col.

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In Poultry business. Others do it. Why not you? Our big illustrated book, "Profitable Poultry," tells how to breed, hatch, feed, grow and market to make lots of money. Starts you on the road to success. Describes most wonderful Poultry Farm in the world—32 kinds of fowls. Gives lowest prices on fowls, eggs, incubators, everything for Poultry. Mailed for 4 cents in postage. Berry's Poultry Farm, Box 72, Clarinda, Iowa.

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## Best No. 1 Sections

per 1000, \$4.00; No. 2, \$3.40; plain, 25c less. Discounts on Danz and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.

H. S. Duby, St. Anne, Ill.

6A14t

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is a hen's natural work. Out bone is the raw material she needs to make her egg a day. A CROWN BONE CUTTER will prepare the food from scrap bones quickly, easily. Write for catalog—tells about the Crown. Wilson Bros., Box 618, Easton, Pa.



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The Famous Honey-Producers will be ready early in April.

Carniolans, Italians and Goldens

Equal to the best, regardless of price. Prices: Tested, each, \$1.00; dozen, \$10.00. Untested, each, 50 cts.; dozen, \$5.50.

6A1f GRANT ANDERSON, Sabinal, Texas.



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Say—"Quote me prices on your Split Hickory Vehicles." That's all you need to do. I will send you free my big 1907 Split Hickory Vehicle Book. It is bigger and better this year than ever before, and contains photographs of over 125 Split Hickory Vehicles—also photographs of a full line of high-grade Harness. I will quote you direct prices from my factory, which will save you from 30% to 50% on High-Grade Split Hickory Buggies.

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The Modern Farmer.....\$ .25  
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Ask for other combinations. We can duplicate any offer made, and frequently go them one better.

## Modern Farmer and Busy Bee

ST. JOSEPH, MO.

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The finest in the land from DANIEL WURTH & GRANT.

3-Banded, Red Clover, and 5-Banded Goldens.

The Goldens took First Premium at every Fair they were exhibited last year.

Prices:—Untested, \$1.00 each; Tested, \$1.50 each. Address,

DANIEL WURTH & GRANT  
PITKIN, ARK.

Make Money Orders payable on West Fork, Ark. I have moved from San Antonio, Texas.—D. W.

## Bee-Supplies and Berry-Boxes

Lewis B ware at Factory Prices. Bee-keepers, club together, send me list of goods wanted, and let me quote you prices. I give the regular discounts. Beeswax wanted. Send for Catalog.

6E1f W. J. McCARTY, Emmetsburg, Iowa.

## Big Reduction in Supplies

Until May 1. Big stock of Dovetailed Hives and One-Piece Sections to draw from. FREE—a year's subscription with order amounting to \$15 or over. Send for 32-page Illustrated Catalog—free.

W. D. SOPER (Route 3) Jackson, Mich.  
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## FOR SALE

6 H.-P. boiler and 4 H.-P. engine on one base. The engine is the double cylinder Westinghouse. The boiler burns a gallon of kerosene oil per hour for fuel.

50 Welsbach-light gas-machine, 100 Welsbach-light gas-machine. These generate gasoline into gas; this gas can be used for fuel-gas on ranges; it will illuminate your residence and workshop.

One 15 H.-P. fire-box or locomotive boiler.

One 10 H.-P. center-crank engine.

One 10 H.-P. vertical boiler complete complete.

One 4 H.-P. vertical engine.

Peerless milk separators, from 350 to 1000 pound capacity per hour.

The gas machines to be exchanged on honey for the coming season.

M. C. GEHL CO., Milwaukee, Wis.

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English Evergreen Hedges.—Beauties they are. Once in a while they are seen in America, especially in the older settled portions. They're useful, too. If allowed to grow quite tall they make a valuable wind-break. It doesn't cost much to get the first 4 trees. 600,000 sample evergreens have been reserved by the Gardner Nursery Company, Osage, Iowa, to send free to property owners who write them. Here is a good way to get a start. Mention the American Bee Journal when writing.

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GRAND RAPIDS, MICH.



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# American Bee Journal

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**THE W. T. FALCONER MFG. CO.**  
JAMESTOWN, N. Y.

[Established 25 years.]

Mention Bee Journal when writing.

## Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15¢@16¢, and for that which is off in color and flavor from 1¢@3¢ less. Amber grades of all kinds are dull and range in price from 10¢@12¢. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8¢, and in some cases more. Ambers grade from 6¢@7¢. There have been some sales of beeswax at 32¢, but 30¢ is about the price for average.

R. A. BURNETT &amp; Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16¢@18¢; No. 1, 14¢@15¢; amber, 11¢@13¢. Fancy white extracted, 7¢@8¢; light amber, 6¢@7¢.

We are producers of honey and do not handle on commission. Wm. A. SELSER.

NEW YORK, Jan. 15.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15¢@16¢ for fancy white; 13¢@14¢ for No. 1; 12¢ for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10¢@12¢, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8¢@9¢; light amber, 7¢; amber, 6¢@7¢; buckwheat extracted in fairly good demand at 6¢@6¢. Southern in barrels finds ready sale at from 55¢@70¢ per gallon, according to quality. Beeswax firm and steady at 31¢.

HILDRETH &amp; SUGLEMAN

## Headquarters for Bee-Supplies

Complete stock for 1907 now on hand.

### FREIGHT-RATES FROM CINCINNATI

are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.

Prompt Service is what I practice.

You will

Satisfaction Guaranteed.

SAVE MONEY BUYING FROM ME.

Catalog mailed free. Send for same.

### A Special Discount on Early Orders.

Let me book Order for

## QUEENS

bred in separate apiaries, the GOLDEN YELLOWS, CARNI-

LANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

## C. H. W. WEBER

CINCINNATI OHIO

Office and Salesrooms, 2146-48 Central Ave. Warehouses: Freeman and Central Aves.

DENVER, Jan. 5.—There is practically no honey left in the hands of producers in this State, and barely enough in the Denver market to supply the home trade until spring. We quote strictly No. 1 white, per case of 24 sections, at \$3.20; No. 1 light amber, \$3; and good No. 2, at \$2.87. White extracted, 8¢@8½¢; light amber, 7¢@8¢. Beeswax, 26¢ for clean yellow, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Jan. 9.—The comb honey market at the present is very quiet. Holders are not trying to realize a profit, simply disposing of what they have, at cost. Fancy comb honey is selling at 14¢@16¢. Extracted amber honey in barrels, 6¢@7¢; fancy light amber in cans, 7¢@8¢; fancy white, 9¢. Strictly choice beeswax, 30¢, delivered here.

THE FRED W. MUTH CO.

INDIANAPOLIS, Jan. 3.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16¢@17¢; No. 1 white, 14¢; amber, 12¢@13¢. Best grades of extracted honey bring 8¢@9¢; amber, 6¢@7¢. Good average beeswax sells here at \$33 per 100 pounds.

WALTER S. POWDER.

TOLEDO, Nov. 30.—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as beekeepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16¢; extra fancy, 17¢; No. 1, 15¢; buckwheat, 15¢. Extracted white clover in barrels brings 7¢@7½¢; cans the same. Beeswax, 26¢@28¢.

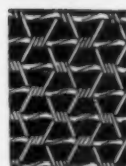
THE GRIGGS BROS. &amp; NICHOLS CO.

CINCINNATI, Jan. 25.—The market on comb honey is rather easy. Prices rule in j.bbing ways from 14¢@14½¢; single cases 16¢ for No. 1 white; off grades not wanted at any price. Extracted is very firm. Light amber in barrels, 6¢@6½¢; white clover in barrels, 7¢; in cans, 8¢. Beeswax, 30¢, delivered.

C. H. W. WEBER.

KANSAS CITY, Jan. 25.—The receipts of comb honey have been more liberal during the last week or two, and the demand light, market weaker. The market is practically bare of extracted, and there is quite a little inquiry. We quote: No. 1 white comb, 24 sec. cases, \$3.10; No. 2, \$2.75; amber, \$2.70. Extracted, white, 7¢@8¢; amber, 6¢@7¢. Beeswax, 27¢.

C. C. CLEMONS &amp; Co.



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COILED SPRING FENCE CO. Box 80 WINCHESTER, INDIANA.

### SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, \$1 each; Tested Queens, \$2; Select Tested, \$3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.

3Atf JAMES ISLAND, S. C.

### 75 Cases Amber and Buckwheat Comb Honey

(24 sec. to case) \$2.30 per case; White Comb, \$2.75 per case.

BEEES AND QUEENS in season. Can furnish bees on Danzenbaker or Simplicity frames. Free Circular.

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5A2t Bellevue, Ohio

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When consigning, buying or selling, consult R. A. BURNETT & CO.

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WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

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—Catalog Free—

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We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take **NO CHANCES** when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

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**DADANT & SONS, Hamilton, Ill.**

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**QUEENS** By uniting swarms from 1000 colonies **NUCLEI** I will sell Queens and Nuclei after March 1, at —1 Queen, 25c; doz., \$3; Nuclei, with Queen, 1-frame, \$1.25; 2-frame, \$1.50; 3-frame, \$1.75. 4A13t R. M. SPENCER, Nordhoff, Calif.  
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Our Discounts on

## BEE-SUPPLIES

are still in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices. We make the

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The most practical, up-to-date hives are the

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are not excelled for durability, fine workmanship, and practical utility. Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

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We will Buy and Sell

## HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

### Beeswax

at highest market prices.

**Hildreth & Segelken**

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"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."